

A COMPARISON OF THE SEX KNOWLEDGE OF INDIANA STATE  
UNIVERSITY UNDERGRADUATE STUDENTS

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by  
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## CHAPTER I

### INTRODUCTION

Sex education is a very controversial subject which is constantly being debated in society. Whose responsibility is it to teach children about sex and family life education? Is it solely the responsibility of the parents or is a combined effort of educators and parents needed? Is sex education a subject which is needed in the school curricula? The importance of sex in society is obvious. This is seen in all media. Any publication seen today has something which pertains to sex. Advertising is a good example of the use of sexual appeal. If sex does play an important role in society, then who is doing this teaching, where and when is it being taught, and how much of that taught is fact and how much is fiction? The investigator was interested in determining the level of sex knowledge of Indiana State University students. The researcher feels that it is important for young men and women to understand and appreciate the need for sex education.

### STATEMENT OF THE PROBLEM

The problem was to determine the extent of sex knowledge possessed by undergraduate students at Indiana State University, Terre Haute, Indiana.

The subdivisions of the problem were as follows:

1. To compare the sex knowledge scores of Indiana State University students with the McHugh Sex Knowledge Inventory national norms
2. To compare the Indiana State University scores of male and female students
3. To compare the scores of students residing in Indiana with those of out of state students

### NEED FOR THE STUDY

Society today cannot decide on the inclusion or exclusion of sex education in the school curriculum. One of the key issues in the dispute is what do young adults know in sex education today as opposed to what should they know. Whose responsibility is it for educating boys and girls in matters of sex? Is this the sole responsibility of the parents? Does sex education belong in the schools as a phase of public education taught by highly competent instructors? Should the parents and school authorities resolve the disagreement by consolidation of their efforts toward the common goal of educating the child through a combined home and school approach?

The matter of individual parent and school decisions on who should instruct the child in areas of sex did not influence the researcher in this investigation, but rather what sex knowledge was possessed by the students being prepared under the guidance of home, schools, and outside



forces. There was a need to determine especially the sex knowledge of Indiana State University undergraduate students so that there was evidence to utilize in deciding the content to include for educating children in matters of sex.

#### DELIMITATIONS OF THE STUDY

1. Form X of the Sex Knowledge Inventory developed by Gelolo McHugh, author of Training for Parenthood, for the Family Life Publications, was administered to determine the sex knowledge of undergraduate students at Indiana State University.
2. The national norms used for this study were developed by Gelolo McHugh.
3. The study was limited to 397 Indiana State University undergraduate students.
4. The sample population was composed of 198 males and 199 females.
5. The sample population was obtained from university classes in the School of Health, Physical Education and Recreation.
6. Undergraduate students who were willing to cooperate in the study were utilized.

#### DEFINITIONS

The following terms were defined to prevent any misunderstanding of the terminology used in this study.

Norms. Norms are tables used to interpret test

scores. It is customary for the author of a standardized test to prepare norms to accompany the test.<sup>1</sup>

Sex education. Sex education is instruction to strengthen family life, to increase self-understanding and self-respect, to develop capacities for good human relationships, to build sexual and social responsibility and to enhance competency to all the issues involved.<sup>2</sup>

McHugh's Sex Knowledge Inventory--Form X. Form X of McHugh's Sex Knowledge Inventory is an objective measure of sex knowledge through eighty multiple choice questions. Areas covered by the questions are: superstitions and misconceptions concerning sex, possible causes of poor sexual adjustment, birth control, sex techniques, conception, pregnancy, childbirth, venereal disease, and menopause.<sup>3</sup>

Causal-Comparative Method of Inquiry. Method in which likenesses and differences are compared to find out what factors seem to contribute to the occurrence of certain events, conditions, or practices.<sup>4</sup>

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<sup>1</sup>American Association of Health, Physical Education, and Recreation, Research Methods in Health, Physical Education, and Recreation (Washington, D.C.: The Association, 1959), p. 236.

<sup>2</sup>Resolution No. 7 of the 1969 Resolutions Adopted by the Governing Council of the American School Health Association, Philadelphia, November 8, 1969.

<sup>3</sup>Family Life Publications, Inc., Box 6725, College Station, Durham, North Carolina, 1968.

<sup>4</sup>Deobold B. van Dalen, Understanding Educational Research (New York: McGraw-Hill, 1966), p. 220.

Knowledge. The act, fact, or state of knowing; specifically the acquaintance or familiarity with a fact or place.

University. A university was considered an institution of higher education that includes one or more schools or colleges for undergraduate and graduate professional study, and grants baccalaureate, master, and doctor's degrees.

Indiana State University undergraduate student. Any person enrolled in Indiana State University who is classified as a freshman, sophomore, junior, or senior.

Sex knowledge. The acquaintance, familiarity, or state of knowledge of male and female sexual interaction, specifically biological, psychological, and sociological.

## CHAPTER II

### REVIEW OF LITERATURE

Numerous studies have been completed in the areas of sex education and sex knowledge. The researcher sought to obtain a broad overview of this research as it relates to his study. The results of the review of literature are:

#### THE LEVINE STUDY

Dr. Levine, an associate professor of Clinical Pediatrics at Cornell University, did his study in 1966. He quoted statistics on divorce rates, venereal diseases, and illegitimate births. They show the seriousness of the problem. Students from sample high schools throughout the nation showed marked decreases in all three categories after sex education programs were initiated. Dr. Levine then proceeded to map out ideal programs of sex education and show it can be correlated and integrated into other areas of study. He outlined a curriculum for K-12 which covers all additional major problems such as adoption, abortion, venereal disease, homosexuality, birth control and miscarriages.<sup>1</sup>

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<sup>1</sup>Milton I. Levine, "Sex Education in the Public Elementary and High School Curriculum," The Journal of School Health, XXXVII (January, 1967), 32-38.

## THE ROSENBLATT-KABASAKALIAN STUDY

This study was initiated because of the alarming rise in venereal disease. The study was designed to test how much knowledge the participants had on the subject before the educational campaign and how much they gained after one year. Also, the second aim was to learn which kinds of media were most effective in teaching information about venereal disease.

Three groups were picked due to the wide differences in their sexual behavior. Group one was made up of Brooklyn College freshmen. Group two was made up of teenagers who applied for health exams so they could get jobs. Group three was made up of juvenile offenders.

The responses showed the campaign to be successful in that a substantial number of teenagers reported seeing posters on the venereal disease campaign. In 1962, the average number of correct responses on the test for group one was 7.77; in 1963, 8.95. Group two in 1962, averaged 5.99 and by 1963, 5.22. Group three responses stayed the same. The researchers found that the best method of increasing knowledge on this subject was a combination of discussions and posters or pamphlets.<sup>2</sup>

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<sup>2</sup>Daniel Rosenblatt and Levon Kabasakalian, "Educating Teenagers About Venereal Disease," The Journal of School Health, XXXVII (November, 1967), 432-35.

## THE MORGENTHAU STUDY

Dr. Morgenthau began his study by quoting shocking statistics on teenage marriages. He showed that 63 percent of the unwed mothers are from very low income groups. Unwed mothers from these groups most frequently delay ante partum care, and therefore suffer severe complications as a result.

Dr. Morgenthau then outlined the program that New York Hospital has set up to care for young teenage pregnancies. His program stressed continued schooling for the girl. He stated that the schools are compounding the problem by forcing the pregnant teenager to withdraw from school.

One purpose of the program was that the school should help the parents explain to their children biological function with emphasis on ethical significance. The following five steps were suggested: (1) early identification of the student in trouble, (2) appropriate referral to guidance counselors or social agencies, (3) expansion and strengthening of family life and sex education courses, (4) give the pregnant student the opportunity to continue her studies under appropriate conditions, (5) and finally, more realistic referral to family counseling and family planning agencies for the girl who needs it regardless of her marital status.<sup>3</sup>

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<sup>3</sup>Joan E. Morgenthau, M.D., "Teenage Mother," The Journal of School Health, XXXVII (September, 1967), 353-58.

## THE BROWER-SOUTHWORTH STUDY

This study was conducted to gain insight into the attitudes of college students concerning the relationship between sexual behavior and degree of personal commitment. This study is closely aligned to many prominent Family Life educators, including Lester Kirkendall, who feels there is an urgent need for research concerning human relationships. He thinks that sex education is a "sexual renaissance," which gives sex education a much broader scope and significance. The Brower-Southworth study was also conducted as a possible first step to help teachers clarify their stands on sexual conduct and premarital sexual behavior.

Two discussions of premarital sexual standards were selected for study: (1) personal commitment in sexual behavior, and (2) similarity of male and female commitment. To measure these, a triangular Sexual Behavior Chart was constructed. The chart consisted of a progression of sexual behavior: (1) light embracing or fond holding of hands, (2) casual good night kiss, (3) intense (French) kissing, (4) horizontal embrace with some petting but not undressed, (5) petting of female's breast from outside of clothing, (6) petting of female's breast without clothes intervening, (7) petting below the waist of a female under her clothing, (8) petting below the waist of both male and female under clothing, (9) nude embrace, (10) intercourse; and beneath the chart was a personal commitment code: (a) casually

attracted, (b) good friends, (c) going steady, (d) tentatively engaged, (e) officially engaged, (f) married. On both sides of the chart were columns headed "Female and Male Commitments." Each person taking the test gave the commitments they felt for both male and female. One hundred and seven males and one hundred twenty females from the University of Wisconsin responded to the test.

The results showed that in all cases females chose the same commitment for males that they chose for themselves. However, several times males felt a slighter commitment was necessary for themselves than for females.

After completion of the test, five opinion questions were asked of the participants. The results were: (1) Ninety-one percent of the combined group had thought about the relationship between their sexual behavior and their personal commitment; (2) sixty-seven percent of the combined group didn't feel the survey had helped them think about their behavior in a more meaningful way; (3) sixty-nine percent felt that teenagers could benefit from taking such a survey; (4) eighty-one percent felt that a sex education unit taught in church or school would help teenagers avoid unwanted sexual activity; (5) the junior high years were selected most often as the grade levels at which the unit should be taught.<sup>4</sup>

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<sup>4</sup>Linda A. Brower and Warren H. Southworth, "Character Education--A Guideline for Discussion of Sexual Behavior," The Journal of School Health, XXXIX (December, 1969), 715-21.



This type of research lends itself well to the development of an instructional unit. This was shown by the two-thirds majority that felt that teenagers could benefit from completing the chart.

#### THE KIRKENDALL STUDY

There are five basic generalizations which emerge from all the studies done on sex education such as where their knowledge is acquired, what subjects are covered, etc. These generalizations are: (1) adolescents get most of their insights and knowledge from each other; (2) although sex information is obtained from appropriate sources it may be limited in scope, short on content and almost always too late in coming; (3) the education received would more aptly be labeled reproduction education than sex education; (4) sex education is usually told or given; (5) parents and teachers lack a clear concept of the outcome they hope to achieve.

Kirkendall continued by saying that society has developed a free choice mode of living for its children. There are no safeguards as in the old days, no chaperones or guardians. Opportunities are provided for experimentation, yet society tries to pretend it (sex) doesn't exist. Children are taught to do things by scientific inquiry, to ask for evidence, but when it comes to sex, this isn't true. Society tends to speak of sex as of disease--in generalizations.

Sex education programs are just as important for adults as they are for youth. Adults need it: (1) to gain a feeling of self-confidence, sense of well-being and personal adjustment, (2) to be more effective in educating their children, (3) to improve society's attitude toward sex, (4) to improve their understanding of the moral issues facing them.<sup>5</sup>

In conclusion, Kirkendall stressed that sex education involves the whole population and the total life span. It goes far beyond genital behavior.

#### THE DOWELL STUDY

This study was an identification of certain health education implications for secondary schools. Selected health problems of local communities were surveyed by use of a checklist which was given to 164 professional workers concerned with health. The ones neglected in school health were determined by a checklist given to 180 teachers. Further implications were determined by surveying the needs and interests of 360 secondary school students. The findings were: (1) Health curriculums should be vitally concerned with teaching about alcohol, tobacco, and drugs; mental health; sex education; (2) secondary schools need to add mental health and sex education to the curriculum; (3)

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<sup>5</sup>Lester A. Kirkendall, "The Family, the School, Peer Group: Sources of Information About Sex," The Journal of School Health, XXXV (September, 1965), 290-95.

more effective means of instruction must be devised; (4) certain areas need to be emphasized at different stages; (5) interests and worries differ greatly between the sexes.<sup>6</sup>

#### THE BRACHER STUDY

The Bracher study examined the popular Martinson report and attempted to summarize what the report revealed concerning sexual values and behavior of high school boys and girls.

The purpose of the study was to find causes of the rising incidence of illegitimacy in Minnesota. The broad scope of the study is what makes it valuable to the educator. A team of researchers spent months in Minnesota communities finding out: (1) what it is like to grow up in a Minnesota community, (2) how the community prepares its young people to understand and live with human sexuality, (3) how the community guides and controls youthful sexual expression.<sup>7</sup>

Sexual knowledge, values, and behavior patterns of high school students were also studied.

The results showed that high school youth are in a sexual situation with unlimited opportunities for sexual

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<sup>6</sup>Linus J. Dowell, "A Study of Selected Health Education Implications," Research Quarterly, XXXVII (March, 1966), 23-31.

<sup>7</sup>Marjory Bracher, "The Martinson Report: Implications for Sex Education," The Journal of School Health, XXXVII (December, 1967), 491-97.

activity, and are without defined goals or values related to the life spanning meaning of sexuality. The implication is plain--the primary need is that values and purposes be taught.

### THE HEINER STUDY

This study was an unpublished doctoral dissertation completed in August, 1969. The general problem was to investigate and determine the extent of knowledge relating to sex education of freshmen students at the University of Utah. The specific problems were comparisons of scores on the McHugh Sex Knowledge Inventory to selected variables. The comparisons which were made were: (1) University of Utah freshmen and the established national norm, (2) male and female students, (3) age groups--twenty and over and seventeen to nineteen, (4) students who were the only child and those from larger families, (5) married and unmarried, (6) religious groups and non-affiliated students, (7) those with prior sex education and those without, (8) male and female knowledge of their own sex parts and their knowledge of the opposite sexes' parts, (9) large city or suburban background and those from rural areas, (10) Utah students and out-of-state students, (11) between high schools.

All data were analyzed statistically.

The results of this study showed that on Form X there was no significant difference in any of the comparisons. On Form Y, the comparisons which showed a signif-

ificant difference were: (1) Married students scored significantly higher; (2) students from large families scored significantly higher than an only child; (3) the twenty and older group outscored significantly the seventeen to nineteen year old group; (4) the male knowledge of his own sex parts was significantly higher than his knowledge of female sex parts; (5) out-of-state students scored significantly higher than in-state students.<sup>8</sup>

#### THE SHARP STUDY

Reverend Billy Ray Sharp, in his thesis entitled "The Minister as a Premarital Counselor," stated that one of the most difficult obstacles young couples must handle is the problem of their sex relationship. He further stated that many ministers have found it quite helpful to use McHugh's Sex Knowledge Inventory. The inventory provides direct discussional openings for the minister. The test is also useful in locating either false or incorrect information.

Reverend Sharp continued to stress the value of McHugh's Sex Knowledge Inventory because it prepared the way for the discussion of sex matters with the minister. The inventory had added value in that it seemed to increase the

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<sup>8</sup>Steven W. Heiner, "The Relationship of Sex Knowledge of Freshmen Students at the University of Utah to Selected Variables" (unpublished Doctor's dissertation, University of Utah, 1969), pp. 7-11.

confidence of the couple in the minister.<sup>9</sup>

#### THE CORRELL STUDY

In 1963, James W. Correll wrote a Master's thesis entitled "The Minister and Premarital Counseling." In the thesis Correll quoted Charles William Stewart, author of The Minister as Marriage Counselor, as saying that Forms X and Y of McHugh's Sex Knowledge Inventory are useful to the marriage counselor, but more useful in the classroom. Stewart felt that couples will talk more freely with their doctor about sex facts rather than a marriage counselor.

Correll introduced McHugh's Sex Knowledge Inventory by stating that the inventory was one of the best tests available for testing sex knowledge.<sup>10</sup>

#### THE WETZEL STUDY

Rita J. Wetzel, in August, 1965, did a study on "The Effect of a Marriage Course on the Personality Characteristics of Students." She found that participation in a marriage course aids in the modification of personality traits in a significantly positive direction. This conclusion supported the theory that areas of personality are

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<sup>9</sup>Billy Ray Sharp, "The Minister as a Premarital Counselor" (unpublished Master's thesis, Pasadine College May, 1962), pp. 87-88.

<sup>10</sup>James W. Correll, "The Minister and Premarital Counseling" (unpublished Master's thesis, Lincoln Christian Seminary, 1963), pp. 17-18.

alterable through educational experiences. The study implied that educators in the field of marriage and family life are able to provide students with experiences to develop further personality traits.<sup>11</sup>

#### THE BENEFIAL AND ZIMNAVODA STUDY

Benefial and Zimnavoda conducted a survey to determine pupil reaction to Family Life Education in California. The results revealed that 90 percent of the young students surveyed felt the family life education programs had been helpful to them.<sup>12</sup>

#### THE LEE EGGERT STUDY

Lee Eggert did this study at the University of Florida. The study presented the position of educational and religious leaders along with psychology, biology, physiology, and sociology instructors on the subject of sex education in the elementary school. The study was a review of what the authorities in these fields consider to be the school's function and responsibility regarding sex education.

The procedure for performing the study was as follows:

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<sup>11</sup>Rita J. Wetzel, "The Effect of a Marriage Course on the Personality Characteristics of Students," The Journal of Marriages and the Family, XXVII (August, 1965), 419-20.

<sup>12</sup>Calvin Benefial and Helen Zimnavoda, "Pupil Reaction to Family Life Education," California Journal of Secondary Education, XXVIII (January, 1963), 363-65.

(1) review of research studies relating to sex education in the elementary school; (2) the fields of biology, physiology, psychology, and sociology were reviewed to find the opinions of authorities in these fields regarding sex education in the elementary school; (3) points of view of authorities in the education field were examined relative to sex education in the elementary school; (4) the various family life and mental hygiene associations in the United States were contacted and their materials on sex education were studied; (5) state departments of education were contacted to obtain their views on elementary school sex education; and (6) due to the accumulated evidence, the recommendations were made regarding sex education in the elementary school.

The significant findings were: (1) authorities in the various fields mentioned felt that sex education should be a part of a well-balanced elementary school program; (2) authorities in the fields of both family life education and mental hygiene felt that sex education should be carried on by the schools. It was concluded that building acceptable attitudes socially is an important part of sex education and of elementary education generally; (3) authorities in the field of education agreed that sex education should be a continuous process and integrated into the school program; (4) less than 5 percent of the cross-section sample included sex education in their curricula; (5) 93 percent of the state superintendents of public instruction felt they had a need for and would support a well-planned sex education



program as part of the elementary school programs; (6) research points to the fact that sex education leads to greater mental happiness and parents should be supplied with this information; (7) church groups favor sex education of one kind or another; they differ on methods, materials, and personnel; (8) parents, by their behavior in the home, by their attitude, and by their responses or lack of responses, are continually giving either good or bad sex education to their children; (9) parents appear desirous of becoming increasingly effective in the sex education of their children, especially when they understand the aims of a sex program; (10) many elementary schools are studying problems relating to sex and family life education and are beginning to develop programs to meet local community needs; and (11) the elementary school must recognize that desirable and undesirable sex attitudes are formed early in life.<sup>13</sup>

#### THE DEARBORN STUDY

A standardized health knowledge test, which included a section on sex education, was given to twelve thousand freshmen and sophomore students in fifteen various universities, colleges, and junior colleges. The results were significant; showing lack of health knowledge to be wide-

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<sup>13</sup>Lee Eggert, "Critical Examination of Sex Education in the Elementary School," The Journal of School Health, XXV (March, 1954), 20-23.

spread. The students' scores on the sex knowledge phase of the test were very low.<sup>14</sup>

#### MCHUGH'S SEX KNOWLEDGE INVENTORY--FORM X

The testing instrument was developed by Gelolo McHugh, editor of Family Life Publications, and is titled McHugh's Sex Knowledge Inventory--Form X.

Form X of McHugh's Sex Knowledge Inventory was published in 1950. Since the original publication, it has been revised, with questions being added concerning new methods of contraception and new research in the sex knowledge field. The most recent revision was in 1968. It reflects the information gained about the inventory by an item analysis which was computed after ten thousand males and females had been given the inventory.<sup>15</sup> The content of Form X was broken down as follows:

Questions 1-12. General. These questions pertained to the aspects of sexuality that may be in the minds of future marriage partners. These questions offer opportunities to conduct post-inventory discussions toward an understanding of an individual's personal feelings and attitudes of his sex values.<sup>16</sup>

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<sup>14</sup>Terry H. Dearborn, "Health Knowledge of College Students Before Instruction," Research Quarterly, XXIX (February, 1958), 154-62.

<sup>15</sup>Gelolo McHugh, Teachers' Handbook for Use with the Sex Knowledge Inventory (Durham, North Carolina: Family Life Publications, Inc., 1968), pp. 8-9.

<sup>16</sup>Ibid., p. 10.

Questions 13-20. Sex Act Techniques. These questions stressed the importance of sexually motivated kisses and caresses between men and women in building up their readiness for a thorough expression of love and desire for each other through intercourse. These questions aid teachers in bringing about a correct understanding of the importance of precoital sex play.<sup>17</sup>

Questions 21-24. The Hymen. This section of the test offered opportunities to register knowledge and attitudes concerning the hymen, and also attitudes toward virginity.<sup>18</sup>

Questions 25-39. Possible Causes of Poor Sexual Adjustment. This set of questions allowed students to register knowledge and attitudes toward causes of poor sexual adjustment in marriage. By analyzing the responses to these questions it is possible to anticipate and reduce possible blocks in attitude or errors in sex knowledge that may hinder happiness in marriage.<sup>19</sup>

Questions 40-42. Sex Dreams. These questions dealt with sex dreams, which eventually may be reduced to a minimum in marriage, but may be a threat to happiness in the early stages of marriage. Men and women need to have a thorough understanding of the many reasons for sex dreams. Knowledge of these facts can prevent feelings of inferiority and guilt.<sup>20</sup>

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<sup>17</sup>Ibid., p. 24.

<sup>19</sup>Ibid., p. 32.

<sup>18</sup>Ibid., p. 30.

<sup>20</sup>Ibid., p. 44.

Questions 43-49. Birth Control. These questions investigated the most effective methods of birth control and the psychological effect of modern birth control devices.<sup>21</sup>

Questions 50-51. Sterilization and Circumcision. This section of the test pertained to the doubts, fears and misconceptions concerning sterilization and circumcision.<sup>22</sup>

Questions 52-56. Menstruation. These questions were concerned with clear understandings of the meaning of menstruation and sensible attitudes toward its meaning as a natural part of the female sex cycle which requires a knowledge of the facts by both men and women.<sup>23</sup>

Questions 57-67. Conception, Pregnancy, and Childbirth. This section of the inventory indicated knowledge of facts related to conception, pregnancy, and childbirth.<sup>24</sup>

Questions 68-71. Superstitions, Misconceptions, and Misinformation. These questions concerned beliefs and attitudes which many men and women bring into marriage because of poor sources, hearsay, and misinformed teaching.<sup>25</sup>

Questions 72-74. Masturbation. These questions dealt with what effect masturbation has on sex desire, intelligence, emotional control, and the human body.<sup>26</sup>

Questions 75-77. Venereal Disease. These questions were concerned with detecting dangerous beliefs and misin-

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<sup>21</sup>Ibid., pp. 46-47.

<sup>23</sup>Ibid., p. 51.

<sup>25</sup>Ibid., p. 60.

<sup>22</sup>Ibid., pp. 50-51.

<sup>24</sup>Ibid., p. 55.

<sup>26</sup>Ibid., p. 62.

formation concerning venereal diseases.<sup>27</sup>

Questions 78-80. Effects of Menopause on Sex Life.

The final three questions were concerned with attitudes and misconceptions concerning menopause.<sup>28</sup>

#### SUMMARY

The review of literature provided the researcher with the background information necessary to have a better understanding of the procedures, subject matter, and analysis of the related research.

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<sup>27</sup>Ibid., p. 64.

<sup>28</sup>Ibid., p. 65.

## CHAPTER III

### PROCEDURES

The purpose of this study was to determine the extent of sex knowledge of Indiana State University students. The research method utilized was the causal-comparative technique. The procedures used in the study were as follows: (1) determination of the test instrument to be used, (2) selection and approval of students to serve as test subjects, (3) preparation of instructions and conditions for administration of Form X of McHugh's Sex Knowledge Inventory, (4) administration of the inventory and collection of data, (5) analysis of data, and (6) the summary, conclusions, and recommendations.

### TEST SELECTION

The researcher needed to select a test that would provide a valid tool to be used in the study. The investigator reviewed several studies in the area of sex knowledge testing, and McHugh's Sex Knowledge Inventory was considered the best instrument to use because of its excellent qualifications. A letter, requesting permission to use McHugh's Sex Knowledge Inventory, was written to Gelolo McHugh, editor of Family Life Publications. A copy of this correspondence is presented in Appendix A. He gave his

consent for the test and national norms to be utilized in the collection and analysis of data. A copy of the correspondence is in Appendix B.

The Form X of McHugh's Sex Knowledge Inventory was established in 1950. Since its publication it has been revised to keep up with the many advances in medical research. Form X was most recently revised in 1968. A copy of the revision is in Appendix C. The inventory is presently in use in five medical schools in the United States and has been officially adopted by the United States Air Force chaplains and semi-officially by the United States Navy chaplains. Permission has been granted to translate the Inventory into French, Spanish, German, and Polish.<sup>1</sup>

Results of McHugh's testing indicate that Form X is a reliable and valid instrument as determined by the results of ten thousand male and female participants. The validity of the Inventory was established through an item analysis and by an advisory committee. The advisory committee was composed of leading authorities in the field of sex education. A list of the advisory committee can be found in Appendix D. The mean educational level for the ten thousand participants was 14 years of schooling.<sup>2</sup>

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<sup>1</sup>Based on personal correspondence between Gelolo McHugh, editor of Family Life Publications, and the writer.

<sup>2</sup>Gelolo McHugh, Teachers' Handbook for Use with the Sex Knowledge Inventory (Durham, North Carolina: Family Life Publications, Inc., 1968), p. 10.

## DATA COLLECTION

The subjects in the study were secured by requesting cooperation and permission, on the part of instructors and students at Indiana State University, to complete Form X of McHugh's Sex Knowledge Inventory. The researcher began by consulting his advisory committee to determine the size of the sample. The researcher then contacted Dr. Mildred Lemen, Acting Chairman, Women's Physical Education Department, and Dr. Richard Spear, Chairman, Department of Health and Safety at Indiana State University, and requested permission to utilize classes in these departments for data collection. A sample of 397 students was obtained and approved by the department chairmen.

The following instructions for administering the inventory were carried out explicitly by the researcher:

- (1) The test was administered to all students in a classroom setting with ten minutes being allowed for explanation of the test procedure and filling out the IBM answer sheets, and
- (2) fifty minutes were allowed for each subject to complete all eighty questions on the test.

## DATA ANALYSIS

The selected variables were compared to determine likenesses and differences. An evaluation was then made of the likenesses and differences of the variables analyzed.

The data obtained from McHugh's Sex Knowledge Inventory--Form X were tabulated and analyzed by computer at



the Indiana State University Testing Center. Means, standard deviation, and standard error were computed for all data.

A significance test, utilizing a critical ratio was computed for each of the comparisons and the level of significance for rejecting the null hypothesis was set at the 5 percent level. The statistical formulas are shown in Appendix E.

## CHAPTER IV

### ANALYSIS OF DATA

This study was undertaken to determine the extent of sex knowledge of 397 Indiana State University students. The data collected in this investigation were analyzed by the Indiana State University Testing Center. The statistical analyses computed were to determine any differences among and between the three selected variables.

The mean, standard deviation, and standard error were computed on all data. A significance test, utilizing a critical ratio, was determined for each of the comparisons and the level of significance for rejecting the null hypothesis was set at the 5 percent level.

The following three variables were compared for likenesses and differences on Form X of McHugh's Sex Knowledge Inventory: (1) differences, if any, in scores of Indiana State University students from the national norms established for the test, (2) differences, if any, in scores between male and female subjects on the Inventory, and (3) differences, if any, in scores between in-state and out-of-state students on the Inventory.

The results of the comparison between Indiana State University student scores and the national norms are shown in Table I.

TABLE I

MEANS AND STANDARD DEVIATIONS OF THE SCORES FOR INDIANA  
STATE UNIVERSITY STUDENTS AND NATIONAL NORMS ON FORM X  
OF MCHUGH'S SEX KNOWLEDGE INVENTORY

Group	Means	Standard deviation
Indiana State University	39.41	8.95
National norm	47.71	9.28

The mean score for 397 Indiana State University students was 39.41 with a standard deviation of 8.95. The mean score for the national group was 47.71 with a standard deviation of 9.28

The significance test results are shown in Table II.

TABLE II

SIGNIFICANCE TEST RESULTS OF INDIANA STATE UNIVERSITY  
STUDENTS SCORES AND NATIONAL SCORES ON FORM X  
OF MCHUGH'S SEX KNOWLEDGE INVENTORY

Group	Standard error	Standard error of difference	Degrees of freedom	Critical ratio	Level needed for significance
I.S.U.	.45	.62	879	13.38	1.65
National norm	.42				

A critical ratio significance test was applied to the mean scores of Indiana State University students and the national norms. The standard error for Indiana State University students was .45 and the standard error for the

national norm was .42. The standard between means was 8.3 with a critical ratio of 13.38. This was significant at the .05 level of confidence for a one-tailed test.

A comparison of scores on Form X of McHugh's Sex Knowledge Inventory of male and female students is shown in Table III.

TABLE III

MEANS AND STANDARD DEVIATIONS OF SCORES BY INDIANA STATE UNIVERSITY MALE AND FEMALE STUDENTS ON FORM X OF MCHUGH'S SEX KNOWLEDGE INVENTORY

Group	Number	Means	Standard deviation
Male	198	37.47	8.49
Female	199	41.33	9.00

The mean for the female group was 41.33 with a standard deviation of 9.00. The mean for the male group was 37.47 with a standard deviation of 8.49.

The significance test results computed on the scores are illustrated in Table IV.

TABLE IV

SIGNIFICANCE TEST RESULTS OF MALE AND FEMALE STUDENTS' SCORES ON FORM X OF MCHUGH'S SEX KNOWLEDGE INVENTORY

Group	Standard error	Standard error of difference	Degrees of freedom	Critical ratio	Level needed for significance
Male	.60	.88	397	4.39	1.65
Female	.64				

The difference between mean scores of male and female participants was 3.86 in favor of the female group. The standard error for male students was .60 and the standard error for female students was .64. The standard error of difference was .88. The critical ratio was 4.39 which was significant at the .05 level of significance. A critical ratio of .165 was needed for a one-tailed test with 397 degrees of freedom.

A comparison of scores of in-state and out-of-state students on Form X of McHugh's Sex Knowledge Inventory is shown in Table V.

TABLE V  
MEANS AND STANDARD DEVIATIONS OF SCORES BY IN-STATE  
AND OUT-OF-STATE STUDENTS ON FORM X  
OF MCHUGH'S SEX KNOWLEDGE INVENTORY

Group	Number	Means	Standard deviation
In-state	355	39.32	9.09
Out-of-state	42	40.14	7.74

The mean for the 355 in-state students was 39.32 with a standard deviation of 9.09. The mean for the 42 out-of-state students was 40.14 with a standard deviation of 7.74.

The significance test results computed on the scores are illustrated in Table VI.

TABLE VI  
SIGNIFICANCE TEST RESULTS OF SCORES BY IN-STATE  
AND OUT-OF-STATE STUDENTS ON FORM X  
OF MCHUGH'S SEX KNOWLEDGE INVENTORY

Group	Stand- ard error	Standard error of difference	Degrees of freedom	Crit- ical ratio	Level needed for significance
In-state	.48				
Out-of- state	1.19	1.28	396	.64	1.65

The difference between means was .82 with a standard error of difference of 1.28. The standard error for the in-state students was .48 and 1.19 for the out-of-state students. The critical ratio was .64. The level of significance needed was 1.65 for a one-tailed test with 396 degrees of freedom.

The researcher ranked the thirteen content areas of the test consecutively from the least knowledge area to the highest knowledge area. This ranking is shown in Table VII.

TABLE VII

RANKING OF CONTENT AREAS FROM LOWEST TO HIGHEST ACCORDING  
TO CORRECT RESPONSES ON MCHUGH'S SEX KNOWLEDGE INVENTORY  
BY 397 INDIANA STATE UNIVERSITY UNDERGRADUATE STUDENTS

Content area	Percent of participants with correct responses in the area
1. Effect of menopause on sex life	26.0
2. Possible causes of poor sexual adjustment	37.1
3. Birth control	40.4
4. Venereal disease	44.1
5. General	44.7
6. Conception, pregnancy, and childbirth	46.7
7. Hymen	48.2
8. Sex act techniques	50.2
9. Sterilization and circumcision	55.0
10. Sex dreams	55.1
11. Menstruation	58.1
12. Masturbation	65.0
13. Superstitions, misconceptions, and misinformation	81.2

The four areas which the 397 students had the least amount of knowledge were: (1) the effect of menopause on sex life, (2) possible causes of poor sexual adjustment, (3) birth control, and (4) venereal disease.

The four areas in which students indicated the most knowledge were: (1) superstitions, misconceptions, and mis-

information, (2) masturbation, (3) menstruation, and (4) sex dreams.

#### SUMMARY

1. The difference between mean scores of Indiana State University students and the national norms was significant at the .05 level of confidence.

2. The difference between mean scores of male and female students was significant at the .05 level of confidence.

3. There was a difference between mean scores of in-state and out-of-state students; however, the difference was not significant at the .05 level of confidence.



## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### SUMMARY

The problem in this study was to determine the extent of sex knowledge of Indiana State University students. The research method utilized was the causal-comparative method of inquiry.

The subdivisions of the problem were as follows:

(1) to compare the sex knowledge scores of Indiana State University students with the McHugh Sex Knowledge Inventory national norms; (2) to compare the scores of male and female students at Indiana State University; and (3) to compare the scores of in-state students with out-of-state students.

Form X of McHugh's Sex Knowledge Inventory was selected as the testing tool to be used. The researcher obtained the permission of Gelolo McHugh, author of the Inventory and editor of Family Life Publications to utilize the test and the national norms in the investigation.

A population of 397 students was derived through permission granted by Dr. Richard Spear, Chairman, Department of Health and Safety, and Dr. Mildred Lemen, Acting Chairman, Women's Physical Education Department to use students enrolled in undergraduate classes in these areas,

during the Spring Semester of 1970. All students were volunteers and were asked to complete the inventory to the best of their abilities.

The instructions for the administration of the inventory were followed accordingly. The test was administered to all participants in a classroom setting. Ten minutes were allowed for explanation and answering of questions of the test procedures which included filling out of IBM answer sheets. A maximum of fifty minutes was allowed each participant to complete the test.

The selected variables were then compared to determine likenesses and difference. The data obtained, from the 397 students tested by content of McHugh's Sex Knowledge Inventory, were tabulated and analyzed by the Indiana State University Testing Center. Means, standard deviations, and standard errors were computed for all data. A significance test, utilizing a critical ratio was computed for each of the comparisons. The level of significance for rejecting the null hypothesis was set at the 5 percent level.

### CONCLUSIONS

The following conclusions were based upon the findings obtained from administration of Form X of McHugh's Sex Knowledge Inventory to 397 Indiana State University students:

1. There was a significant difference between Indiana State University students and the national average. Indiana State University students scored significantly lower.

2. There was a significant difference between Indiana State University male and female students with the females scoring significantly higher.

3. The out-of-state students scored higher as a group than did Indiana State students, but the difference was not significantly higher at the 5 percent level.

### RECOMMENDATIONS

In light of the fact that students from Indiana State University scored below the fiftieth percentile on Form X of McHugh's Sex Knowledge Inventory, the following recommendations are justified:

1. The schools and universities should use the results of this study in planning curricula content for boys and girls on matters of sex.

2. Students should become more knowledgeable in matters such as the effect of menopause on sex life, possible causes of poor sexual adjustment, birth control, venereal disease, general sex education, conception, pregnancy childbirth, and the hymen.

3. Colleges and universities should consider the results of this study in determining possible sex education and related courses for undergraduate students.

4. Further sex knowledge inventory studies should be conducted at the high school and college levels in Indiana.

5. Education programs should be initiated in the

State of Indiana to inform the public and the school administrators and teachers of the lack of understanding by students in matters of sex education.

6. Parents and residents of Indiana communities should use the results of this study in accepting roles in educating their children in matters of sex.

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APPENDIX A

LETTER REQUESTING A COPY OF FORM X OF  
MCHUGH'S SEX KNOWLEDGE INVENTORY



APPENDIX A

LETTER REQUESTING A COPY OF FORM X OF  
MCHUGH'S SEX KNOWLEDGE INVENTORY

December 17, 1969

Mr. Gelolo McHugh  
Family Life Publications, Inc.  
Box 6725, College Station  
Durham, North Carolina 27708

Dear Sir:

I am a graduate assistant in the department of Health and Safety, at Indiana State University. I am inquiring about the Form X of McHugh's Sex Knowledge Inventory. I received Form Y from you earlier. I would like to know if you could send me a copy of Form X, the national norms for it, and the Teacher's Handbook for use with the Sex Knowledge Inventory. If there is any cost, please bill me. Thank you so much.

Sincerely,

---

Richard Fitzpatrick  
Department of Health and Safety

RF:va

C O P Y

APPENDIX B

LETTER REQUESTING PERMISSION TO REPRODUCE FORM X  
OF MCHUGH'S SEX KNOWLEDGE INVENTORY, AND LETTER  
FROM GELOLO MCHUGH GRANTING PERMISSION  
AND AN ENCLOSURE

APPENDIX B

LETTER REQUESTING PERMISSION TO REPRODUCE FORM X  
OF MCHUGH'S SEX KNOWLEDGE INVENTORY, AND LETTER  
FROM GELOLO MCHUGH GRANTING PERMISSION  
AND AN ENCLOSURE

March 11, 1970

Mr. Gelolo McHugh  
Family Life Publications  
Box 6725, College Station  
Durham, North Carolina 27708

Dear Sir:

I am a graduate student at Indiana State University in the Department of Health and Safety. I have written you previously and you helped me a great deal by sending a copy of Form X of McHugh's Sex Knowledge Inventory. I am using the inventory to do my Master's thesis. My chapter on related literature is giving me some difficulty and I would like to know if you could tell me what other studies have used McHugh's Inventory. I would also like your permission to reproduce a copy of the inventory and place it in my Appendix. Thank you so much for your help.

Sincerely,

Richard Fitzpatrick  
Graduate Assistant  
Department of Health and Safety

RF:va

C O P Y

Mr. Richard Fitzpatrick  
Graduate Assistant  
Department of Health and Safety  
Indiana State University  
Terre Haute, Indiana 47809

Dear Mr. Fitzpatrick:

See Sex and the Medical Student Journal of Medical Education, vol. 41, #5, May, 1966--Symposium on Family Planning.

I am sorry to relate that pressures of work have kept me from assembling a file of published (and unpublished) reports on use of the Inventories. I send you here a copy of an old report.

You have permission to reproduce the Form X Inventory in your thesis. Be sure to credit the copyright and state "Reproduced by written permission from Family Life Publications, Inc."

Sincerely,

(Signed) Gelolo McHugh

C O P Y

The Sex Knowledge Inventories are in use (adapted for class teaching) by over one thousand college teachers in the United States and Canada. Form Y is increasingly adopted for teaching in high schools throughout the country. By combining use of Form Y with use of later publications, A Dating Problems Check List and Courtship Analysis, it is safe to say my materials are used by nearly 1000 high school teachers.

The Sex Knowledge Inventories are used in premarital counseling and in teaching in 20,000 larger Protestant churches and in synagogues in the United States and Canada. There is some use by churches in Australia, England, France, and Belgium. Several hundred professional marriage and family counselors, including some lawyers, use these materials as a part of their counseling programs. The Inventories are used by over 2000 M.D.s in counseling practice. In their book, Marriage Counseling in Medical Practice, 1964, University of North Carolina Press, Nash, Jessner, and Abse find the Sex Knowledge Inventories the most frequently used aids to marriage and premarital counseling by North Carolina physicians.

The Inventories have been featured and endorsed in a minimum of six medical journal articles. I am unable to locate two of these at the moment. Those I have are:

1. The Physician's Role in Premarriage Counseling, J. W. Pearson, M.D., American Journal of Obstetrics and Gynecology, 1956, 71, 363-367;
2. Premarital Examinations and Counseling for General Practice, P. Sholten, M.D., Journal of the American Medical Association, 1958, 168, 1171-1177;
3. The Role of the Gynecologist in Family and Marriage Counseling, J. A. Offen, M.D., Journal of Obstetrics and Gynecology, 1959, 13, 302-310;
4. Marriage Counseling, B. Y. Glassberg, M.D., 1960, Journal of General Practice, 22, 144-146.
5. Premarital Counseling--Symposium on Family Planning. Medical Society of D.C. Washington, D.C.

The Inventories are presented in various symposia for the Armed Forces Chapters of the American College of Ob-Gyn by James P. Semmens, Captain M.C., U.S. Navy.

The Inventories are in use with first year medical students in a minimum of five medical schools in the United States.

The Sex Knowledge Inventory, Form Y, has been officially adopted by the Methodist Church for use in its National Program on the Moral Concerns of Youth. A teachers' manual and student workbook under the title of Sex and the Whole Person has been prepared by Dr. John Weir and is published by the Methodist Church Press. Dr. Weir and I have been working together on a film strip.

Form Y also is listed in their 1965 Bibliography by Evaluation Instruments in Health Education by the American Association for Health, Education, and Recreation.

There is no way for me to assemble publication dates and names of church and other magazines that have featured the Inventories for use in counseling and teaching. I simply did not keep up with these. Two articles have appeared in the Methodist Church magazine, The Pastor. There have been features in Christian Century; Pulpit; and Pulpit Digest; Church Management; International Journal of Religious Education, and in many others. The Inventories have been endorsed by the Chief of Chaplains of U.S. Armed Forces. There is official adoption by Air Force Chaplains and semi-officials adoption by Navy Chaplains.

Permission has been granted to professional educators in other countries to translate the Sex Knowledge Inventories into French, Spanish, German, and Polish. Professor Mark Lanval, Department of Sociology, University of Belgium at Brussels, received a grant from his government to work with these forms and has published a report in book form. Professor M. Chaynowski of the Polish Academy of Sciences has requested and received permission to translate the Inventories for research with college students.

Request for permission to translate to Spanish has come from Methodist missionaries in Central and South America. Permission to translate to German was granted to a university teacher whose name and address is not easy to locate in my files. As with magazine articles, there has been no chance for me to keep up with the appearance of mention and endorsement for the Inventories in text books and handbooks on counseling. It is safe to say no significant books have been published in the areas of education for marriage or training in personal counseling since 1955 that do not contain some favorable mention of the Inventories. It would easily be possible to list a minimum of thirty school books. Instead, by way of example, Peterson's Education for Marriage and Marriage Counseling by Morris devote almost whole chapters to the Inventories and their use. The Inventories also appear in text books in general psychology, in adjustment, in adolescent psychology, etc.

At one time I tried to keep a file on graduate research at the M.A. and Ph.D. levels in which the Inventories were used. Pressure of work and inadequate clerical assistance soon stopped this project. From my old file I have the following:

1. Relation between Scores on the McHugh Inventory and Self-rating of Marital Satisfaction. Ph.D. Thesis by Charles A. Parma, Penn State University, 1953.
2. The Content of Premarital Instruction by 134 Protestant Clergymen. Ph.D. Thesis by F. G. Stewart, University of Pittsburg, 1955.
3. An Analysis of Sex Social Relationships of Male Freshmen Entering Washington State College. M.S. Thesis, L. W. Ames, 1953.
4. Sexual Understanding Among Young Married Adults. Th.M. Thesis by B. David Edens. Southern Baptist Seminary. (Mr. Edens, a sort of protege of mine, continued to a Ph.D. in Counseling at Columbia University, 1957. By way of Contact with graduate students I have in a sense sponsored three other ministers into Ph.D.s in Counseling via Columbia and, in one case, the University of Michigan in combination with work at Merrill Palmer, under Aaron Ruthledge.)
5. A Sex Attitude Inquiry. A.M. Thesis, Lucille Morrison, Pepperdine College, 1958.

I have a small list of papers given by psychologists and sociologists at a variety of meetings.

A considerable number of other individual graduate programs have come to my attention. In anticipation of this writing I collected correspondence for the fall of 1965. These disclose:

1. A.M. Thesis in progress at the University of Alabama with my Courtship Analysis.
2. A completed A.M. Thesis, 1965, by J. W. Carrell under the title, The Minister and Premarital Counseling, Lincoln Christian Seminary.
3. An Ed.D. degree in progress by Don R. Fuller with Dr. E. P. Trice at the University of Arkansas.
4. Work on a M.A. Thesis in Sociology by J. M. Finney with Dr. Frank Peterson, Chairman, Department of

Sociology, University of Puget Sound. This student will use the Dunn Marriage Role Expectation Inventory with translation to German. I helped develop this inventory which is gaining wide use.

5. A Ph.D. study in progress at the Institute of Religion, University of Utah by George J. Kidd. Sponsored by a research committee made up of members of Psychology and Sociology Departments in seven universities, including the University of Heidelberg.

6. A proposed research program by J. Ronald Posey, Marriage Counselor, The Conciliation Court, Sacramento, California.

7. An M.A. Thesis in progress by Miss Linda Adelson, Department of Sociology, Alabama State University.

8. A completed Thesis, The Protestant Minister as a Premarital Counselor, by B. R. Sharp, Pasadena College.

Estimating backwards that there have been certainly no less than three such letters per year in the past twelve years, I conservatively figure there are thirty-five graduate degrees to which my materials have made some contribution. There is no way to know how much more influential, and possibly helpful, these materials might have been had I published my own research data beyond the establishment of norms from tests returned to me.



APPENDIX C

A COPY OF FORM X OF MCHUGH'S  
SEX KNOWLEDGE INVENTORY

## APPENDIX C

### A COPY OF FORM X OF MCHUGH'S SEX KNOWLEDGE INVENTORY

1. What is the relation between sexually attracted to a man or woman and being in love with that person?
  - a. Sex attraction is physical desire; love is an attitude.
  - b. Sex attraction and being in love are the same thing.
  - c. If there is no sex attraction, there can be no love.
  - d. Sex attraction may mean that love also is present.
  - e. If there is no love there will be no sex attraction.
2. Sex relations are:
  - a. For physical pleasure.
  - b. A way to relieve tension.
  - c. A way to express love.
  - d. A biological urge.
  - e. All of the above.
3. Of the following, which one supplies the best evidence for predicting that a prospective husband or wife will be a good sex partner?
  - a. The "sex appeal" of the man or woman.
  - b. His or her interest in or conversation about sex.
  - c. His or her physical demonstration of affection.
  - d. All of his or her behavior during courtship.
  - e. His or her response to physical closeness.
4. Happily married couples have sex relations:
  - a. Whenever they can; every day if possible.
  - b. When the wife wants sex relations.
  - c. When the husband wants sex relations.
  - d. When both need sex relations.
  - e. When sex relations are pleasing to both.
5. Happily married couples make each act of sex relations last:
  - a. As long as possible.
  - b. No longer than necessary.

- c. Until the woman is satisfied.
  - d. Until the man is satisfied.
  - e. As long as it is pleasing to both.
6. How do men and women differ in readiness for orgasm?
- a. They usually are ready at the same time.
  - b. Women usually are ready sooner than men.
  - c. When often are ready sooner than women.
  - d. Well matched couples usually are ready at the same time.
  - e. Men always are ready sooner than women.
7. On the average, how do men and women differ in fundamental potential capacity for responsiveness to sexual stimulation?
- a. Men can respond faster, more intensely than women.
  - b. Women can respond faster, more intensely than men.
  - c. Men and women probably do not greatly differ in this capacity.
  - d. Men can respond faster but not as intensely as women.
  - e. Women can respond longer but not as fast as men.
8. What is the most probably answer to the question of whether men and women are alike in the capacity to have and to recognize a physical urge for sex relations?
- a. Apparent differences may be due to differences in learned attitudes.
  - b. Apparent differences are real and are due to physical differences.
  - c. Women are naturally less able to have sex hunger.
  - d. A few women are equal to men in this capacity.
  - e. There are no sex differences in this capacity.
9. How do men and women who are aroused and ready for orgasm differ in their needs for orgasm?
- a. Men have a more pressing physical need.
  - b. Women have a more pressing physical need.
  - c. Failure to secure orgasm causes more emotional distress in men.
  - d. Failure to secure orgasm causes more emotional distress in women.
  - e. Men and women do not greatly differ in their needs.
10. In some women sexual excitement causes a noticeable enlargement and firmness of the clitoris. Other women become sexually excited with no noticeable change in the clitoris. How do these women differ in strength of sex desire and capacity for orgasm?

- a. Absence of clitoral response indicates low desire and low capacity.
  - b. Women with no clitoral response require direct clitoral stimulation.
  - c. Noticeable clitoral response is unrelated to desire or capacity.
  - d. An enlarged and firm clitoris indicates capacity for vaginal orgasm.
  - e. An enlarged clitoris must be directly stimulated for orgasm to occur.
11. Many women are unable to achieve orgasm without manual stimulation of the clitoris through the rubbing or caressing of nearby areas. Some women easily achieve orgasm through penile stimulation of the vagina. How do these women differ in sex desire and in capacity for orgasm?
- a. A need for clitoral stimulation indicates less desire and capacity.
  - b. Response to clitoral stimulation indicates more desire and capacity.
  - c. A vaginal response indicates more desire and capacity.
  - d. A vaginal response indicates less desire and capacity.
  - e. Stimulation required for orgasm is unrelated to desire or capacity.
12. What determines whether a husband and wife will be active sex partners up to and beyond sixty years of age?
- a. Stronger than usual sex drives in both.
  - b. A continuing need for sex relations by the husband.
  - c. Better health than the average couple.
  - d. Mutually satisfying sex relations through the preceding years.
  - e. A moderate sex life with little or no masturbation by either one.
13. What is the main reason for sex play before intercourse?
- a. To make the woman's sex organs ready for intercourse.
  - b. To reduce sexual excitement in the man.
  - c. To make intercourse more satisfying for both.
  - d. To help a woman satisfy sex needs a man does not have.
  - e. To make the man's sex organs ready for intercourse.
14. What kind of sex play do marriage counselors commonly suggest as appropriate for sex relations?
- a. Sex play should be limited to kissing and hugging.
  - b. Either may kiss or caress the other in any way pleasing to both.
  - c. The man may kiss or caress the woman in any way pleasing to both.

- d. The woman should be very active in sex play.
  - e. The couple should avoid oral-genital contacts and kissing.
15. When she is sexually excited a woman's clitoris may be noticeably enlarged and quite firm. What is likely to happen to the enlarged clitoris as the woman progresses in sex desire to readiness for intercourse?
- a. It will be longer and more exposed, for contact in intercourse.
  - b. It will be larger, longer, and more firm.
  - c. It will be smaller, shorter, and less firm.
  - d. It will be withdrawn beneath protective folds of flesh.
  - e. There will be no noticeable change in its size or location.
16. By what kind of behavior in relation to the clitoris will a husband be more likely to bring his wife to readiness for intercourse and for orgasm?
- a. By touching and rubbing it in all sex play.
  - b. By avoiding it and adjacent areas at all times.
  - c. By indirect stimulation thru rubbing and caressing adjacent areas.
  - d. By stronger direct stimulation of it as sex desire increases.
  - e. By direct stimulation of it until orgasm is achieved.
17. What parts of a woman's body are almost always found to be responding to sexual excitement by becoming noticeably larger or more firm?
- a. Vagina, cervix, and clitoris.
  - b. Inner labia, clitoris, and vagina.
  - c. Breasts, vagina, and inner labia.
  - d. Inner labia, breasts, and perineum.
  - e. Perineum, clitoris and cervix.
18. Of the following, which is the best position for intercourse?
- a. A side position, which frees the hands for sex play.
  - b. The man above with the woman facing him.
  - c. The man above with the woman facing away from him.
  - d. The woman above with the man facing her.
  - e. Any position pleasing to both.
19. When they are aroused and ready for orgasm how many orgasms will a man or a woman need, and be able to have?
- a. Both will need only one and can have only one.
  - b. Men may need more but can have only one.

- c. Women often need and can have more than one.
  - d. Men often need and can have more than one.
  - e. Women may need more but can have only one.
20. What is the important reason why a woman should do everything she can to help her husband understand her sex feelings and desires?
- a. So he can know her sex needs are different from his.
  - b. So he will delay his orgasm until she is satisfied.
  - c. So they will almost always achieve orgasm at the same time.
  - d. So he will stimulate her adequately and give her satisfaction.
  - e. So he will not feel guilty when she fails to achieve orgasm.
21. What is likely to happen to the internal and/or external female sex organs as a result of vigorous physical activities such as tennis, gymnastics, or horseback riding?
- a. Some internal injury will occur.
  - b. The vagina will be enlarged.
  - c. Nothing is likely to happen.
  - d. The hymen will be made thicker and stronger.
  - e. The hymen will be torn or destroyed.
22. Women who have a hymen:
- a. Have had no intercourse.
  - b. Often have pain when menstruating.
  - c. Do not masturbate.
  - d. Are unable to become pregnant.
  - e. None of the above is necessarily true.
23. How can one tell whether a woman has ever had intercourse?
- a. Sexually experienced men can tell by the way she walks.
  - b. One can tell by her social behavior and sex attitudes.
  - c. One can know by whether she has an unbroken hymen.
  - d. A physician can always tell by a physical examination.
  - e. There is no sure way.
24. How painful will intercourse be for a woman with a hymen?
- a. May be quite painful.
  - b. Will not be painful.
  - c. There will be no pain if the woman wants intercourse.
  - d. First intercourse always is painful.
  - e. There will be pain if the man's sex technique is poor.

25. What is the probable reason when muscles of a wife's vaginal entrance goes into spasm, which may prevent intercourse altogether or cause her pain in intercourse?
- a. Insufficient or inadequate sex play before intercourse.
  - b. No sex desire or inability to enjoy sex relations.
  - c. A learned involuntary reaction to sex relations as painful, dangerous.
  - d. Normal expectation that sex relations are threatening or painful.
  - e. An intentional act from fear of pregnancy or of intercourse.
26. How often is unsatisfactory intercourse caused by a difference in size of the male and female sex organs?
- a. Almost always.
  - b. Very often.
  - c. Often.
  - d. At times.
  - e. Rarely.
27. How often is failure to find sexual satisfaction in marriage caused by a fundamental difference between the man and wife in capacity to want and to enjoy sex relations?
- a. Almost always.
  - b. Very often.
  - c. Often.
  - d. At times.
  - e. Rarely.
28. What is the usual aftereffect of orgasm on a man or woman?
- a. No noticeable effect.
  - b. A relaxed satisfied feeling.
  - c. A tired feeling.
  - d. A feeling of weakness.
  - e. Nervous tension.
29. What is the most likely reason when a wife continues to find intercourse painful after medical examinations reveal no cause for this pain?
- a. She and her husband are not physically well mated.
  - b. Her husband's sex technique is inadequate or wrong for her.
  - c. She feels guilty about or afraid of intercourse.
  - d. She is having sex relations just to please her husband.
  - e. She is trying to avoid sex relations by pretending pain.

30. Of the reasons listed, which one most often accounts for a wife's failure to be active in sex play or to be responsive in intercourse?
- Her husband provides inadequate or insufficient sex play.
  - Her husband wants and expects her to be passive.
  - She has learned not to be responsive or fears pregnancy.
  - She is physically unable to experience strong sex desire.
  - She is sick or is too tired to enjoy sex relations.
31. What is the probable cause when sex relations have become less frequent and a felt need for sexual closeness often is absent in the couple that had an enjoyable and satisfying sex life during the early part of their marriage?
- Sex has become less important than material and social success.
  - Their earlier sex behavior exceeded their real sex needs.
  - Other ways to enjoy each other have replaced sex.
  - Fatigue or marital conflicts are blocking sex desire.
  - Unrecognized sexual problems are preventing the enjoyment of sex.
32. What is the most likely cause when a husband develops symptoms of impotency in the form of inability to maintain erection, premature ejaculation, or failure to achieve orgasm?
- A failure to meet and marry the right woman.
  - Dissatisfaction with and disappointment in sex in marriage.
  - Poor sexual health and a need for medical care.
  - Non-sexual marital conflicts, worries, resentments or fatigue.
  - Unrecognized sexual conflicts, worries, and resentments.
33. Which of the suggestions listed here may be the best approach to the problem when a wife fails in her efforts to overcome a lack of responsiveness in sex relations?
- Become pregnant.
  - Seek professional help.
  - Take a more active part in sex play.
  - Improve her physical health.
  - Ask her husband to help her be more responsive.



34. Which one is the best indication of a successful sexual adjustment in marriage?
- The amount of sex relations wanted by both husband and wife.
  - The degree of passion experienced by both throughout the sex act.
  - The wish to be together after sex needs are satisfied.
  - The frequency of reaching orgasm at the same time.
  - The couple's wish to learn new and better ways to enjoy sex.
35. A couple has sex relations enjoyable to both during the first weeks of marriage. What does this mean?
- This indicates previous sexual experience.
  - This could be a good sign or may mean nothing.
  - This is a slightly favorable sign.
  - This proves they can get along together.
  - This proves they will be happily married.
36. Why do some newly married men reach orgasm much too soon to be effective sex partners?
- Excessive masturbation in adolescence and adulthood.
  - Homosexual experiences in childhood or early adolescence.
  - Lack of sex experience or a wrong conception of the female sex role.
  - Diseased or unhealthy sex organs or glands.
  - A lack of confidence or a lack of sexual self control.
37. What is best for a man who repeatedly reaches orgasm before he wants to and too soon for his wife to enjoy intercourse?
- Permit no sex play during relations.
  - Reduce sex play before intercourse.
  - Think of other things during sex play and intercourse.
  - Seek professional help.
  - Have sex relations more often.
38. How do homosexual experiences in childhood effect sexual adjustment and performance in adulthood?
- Often cause the adult to prefer homosexual relations.
  - Cause low sex desire and disinterested heterosexual performances.
  - Often cause inability to have heterosexual relations.
  - May have no effect or may do some psychological damage.
  - Often cause frigidity and premature ejaculation.

39. Is it likely or unlikely that an adult preference for homosexual relations can be changed to a preference for heterosexual relations by getting married?
- a. Very likely.
  - b. Likely.
  - c. Unlikely.
  - d. Very unlikely.
  - e. Depends on person she or he marries.
40. What is a "wet dream?"
- a. An abnormal loss of semen during sleep.
  - b. A normal discharge of semen often while one is dreaming about sex.
  - c. An abnormal discharge of semen during a dream about sex.
  - d. A discharge of semen caused by sex thoughts before sleeping.
  - e. A periodic discharge of male sex fluids similar to menstruation.
41. What is the usual reason for "wet dreams?"
- a. Abnormal or excessive sex desire.
  - b. Lack of self control in sex feelings and desire.
  - c. A need for sex outlet or sex tension resulting from a sex dream.
  - d. Sex tension caused by sex thoughts before sleeping.
  - e. Strong desire for sex relations with someone who is not available.
42. How often do women have dreams that release sex tensions?
- a. Never.
  - b. Almost never.
  - c. Occasionally.
  - d. Frequently.
  - e. As often as men have "wet dreams."
43. What do physicians say about the effects of modern methods of birth control?
- a. That they reduce a woman's chances to have a wanted pregnancy.
  - b. That their use endangers the health of women.
  - c. That they may harm the male sex organs.
  - d. That they very rarely harm the health or fertility of either sex.
  - e. That they protect the health of couples who use them.

44. When they are used in the correct way, how effective are medically approved methods of birth control?
- a. Completely effective.
  - b. Highly effective.
  - c. Only moderately effective.
  - d. A slightly better than no methods.
  - e. Completely ineffective.
45. What is the effect of birth control on pleasure in intercourse?
- a. Increased pleasure for the wife, reduced pleasure for the husband.
  - b. Increased pleasure for both husband and wife.
  - c. Reduced pleasure for both husband and wife.
  - d. Increased or reduced pleasure depending on attitudes.
  - e. No effect on pleasure for either husband or wife.
46. When consistently and intelligently used as directed by a competent authority, which of the following is an effective method of birth control?
- a. A rubber sheath or condom.
  - b. An oral contraceptive (pills).
  - c. A vaginal diaphragm with contraceptive cream.
  - d. An intrauterine device (I.U.D.).
  - e. Any one of the above.
47. Which method of birth control requires no preparation just before sex relation by either husband or wife, but ones in use provides continuous and highly effective control?
- a. A rubber sheath or condom.
  - b. Oral contraception (pills).
  - c. An intrauterine device (I.U.S.).
  - d. A vaginal diaphragm.
  - e. The "safe period."
48. Of those listed here which is an unreliable method of birth control?
- a. Withdrawals by the male before orgasm.
  - b. Douching immediately after sex relations.
  - c. The safe period.
  - d. Sex relations without orgasm by the male.
  - e. Any of the above.
49. If the population of the United States is to remain at its present level, no couple may have more than:
- a. One child.
  - b. Two children.

- c. Three children.
  - d. Four children.
  - e. Five children.
50. What is the usual effect of surgical sterilization as a method of birth control on a man's or a woman's sex desire, or pleasure in sex relations?
- a. No change in desire or pleasure.
  - b. Reduced desire in men but not in women.
  - c. Reduced pleasure in men but not in women.
  - d. Reduced pleasure in women but not in men.
  - e. Reduced desire in women but not in men.
51. What is the effect of circumcision on sex activities in adulthood?
- a. No effect.
  - b. Increased enjoyment.
  - c. Decreased enjoyment.
  - d. Increased ability to prolong sex relations.
  - e. Reduced desire to masturbate.
52. What is menstruation?
- a. Clearing the body of impure blood.
  - b. Bringing the ovum (egg) down into the womb.
  - c. Clearing the unfertilized ovum (egg) from the womb.
  - d. Clearing the womb to prepare again for possible pregnancy.
  - e. Nature's way of reducing sex desire in women.
53. Is a menstruating woman sick?
- a. Yes.
  - b. She is in poor emotional health.
  - c. Her resistance to infection or disease is low.
  - d. She naturally feels weak and unwell from loss of blood.
  - e. Menstruation is not an illness.
54. Of the items listed here which one is the most important in considering the possibility of intercourse during menstruation?
- a. The attitudes of the man and the woman.
  - b. Whether a woman can enjoy sex at this time.
  - c. Whether intercourse increases depression of menstruation.
  - d. Whether it is physically possible to have intercourse at this time.
  - e. Whether intercourse during menstruation is dangerous to health.

55. What is the most likely result of intercourse during menstruation?
- Injury to the woman's sex organs.
  - Infection of the male sex organs.
  - A normal pregnancy.
  - An abnormal pregnancy.
  - Nothing of importance to physical health.
56. What changes usually occur in menstruation after marriage?
- No changes occur unless the woman becomes pregnant.
  - Menstruation is more regular and less difficult.
  - Menstruation is less regular and more difficult.
  - Menstrual pains and headaches disappear.
  - Depression and moodiness are no longer present.
57. How often are there male sperm cells which could cause pregnancy, in the fluid which flows from the male organ before orgasm?
- This fluid always contains sperm cells.
  - This fluid often contains sperm cells.
  - This fluid contains sperm cells at times.
  - This fluid never contains sperm cells.
  - No one knows whether this fluid contains sperm cells.
58. How many times must a woman have intercourse for pregnancy to be possible?
- Once.
  - Several times.
  - Many times.
  - Once if she is passionate.
  - Several times if she is not passionate.
59. What kind of intercourse is necessary for a woman to become pregnant?
- She must reach orgasm before the man.
  - The man and woman must reach orgasm at the same time.
  - She must reach orgasm after the man.
  - Pregnancy is possible whenever sperm cells enter the vagina.
  - The man must reach orgasm for pregnancy to be possible.
60. At what time in her cycle of menstruation is a woman most likely to become pregnant?
- About two weeks before menstruation begins.
  - During the three days before menstruation begins.
  - During menstruation.
  - In the first day after menstruation ends.
  - During the first week after menstruation ends.

61. How soon after birth of her baby is it possible for a woman to become pregnant again?
- Before menstruation begins again.
  - Not until after she has menstruated.
  - Not until she stops breast feeding her baby.
  - Not until she feels sex desire.
  - Not until she again is able to achieve orgasm.
62. How does being unresponsive in intercourse affect the possibility that a woman will become pregnant?
- Makes pregnancy impossible.
  - Greatly reduces possibility of pregnancy.
  - Has no effect.
  - Increases possibility of pregnancy.
  - Reduces possibility unless her husband is very passionate.
63. By using a pregnancy test how soon after pregnancy could have occurred can a doctor know what the woman is, or is not, pregnant?
- Ten to twelve days.
  - Two to three weeks.
  - Four to six weeks.
  - Three months or more.
  - Pregnancy tests are not reliable.
64. Without the use of a laboratory that for pregnancy how soon after pregnancy could have occurred can a physician be sure that a woman is pregnant?
- After the first month.
  - After the second month.
  - During the third month.
  - When he can hear the baby's heart.
  - When the woman can feel the baby move.
65. For how long after a woman becomes pregnant can she and her husband safely continue their usual pattern of sex relations?
- Intercourse should stop at once.
  - They can continue for three months at their usual rate.
  - They can continue for six months but less frequently than before.
  - They can continue as long as the woman feels no discomfort
  - They should seek and follow the advice of their doctor.

66. What usually happens to the cervix and the vagina when a woman is having a baby?
- They relax and are stretched as the baby passes through.
  - The vagina is held open by the doctor or midwife.
  - These openings must be enlarged by surgery.
  - These openings are torn by pressure of labor.
  - Pregnancy causes them to grow larger in preparation for birth.
67. What change usually occurs in the vagina as the result of having a baby?
- It is much larger.
  - It is slightly larger.
  - There is no change in size.
  - The woman can feel greater pleasure in intercourse.
  - The woman can feel less pleasure in intercourse.
68. What does size of male or female sex organs indicate?
- Size indicates whether the man or woman will be a good sex partner.
  - Large sex organs mean greater sex desire and capacity.
  - Size indicates how much the man or woman has masturbated.
  - Large sex organs mean much experience in intercourse.
  - Size of sex organs indicates none of the above.
69. Where can a person with low sex desire get a cream or a lotion that will cause him or her to want or be able to have sex relations more often?
- Drug stores sell them.
  - They exist but contain harmful drugs and are not for sale.
  - A doctor can prescribe these creams or lotions.
  - Some people know how to make them from herbs, oils, etc.
  - There are no such creams or lotions.
70. What is indicated about her sex desire and responsiveness by the size of a woman's breasts?
- Women with large breasts are more responsive in sex relations.
  - Women with small breasts are more responsive in sex relations.
  - Women with large breasts want sex relations more often.
  - Women with small breasts want sex relations more often.
  - Breast size is not related to sex desire or responsiveness.

71. What is the effect of eating certain foods such as oysters, raw eggs, olives, celery, etc., on sex desire and on capacity?
- Noticeable increase in desire in young adults.
  - Noticeable increase in capacity in older adults.
  - Noticeable increase in both desire and capacity for all ages.
  - Noticeable increase in desire and capacity in young adults.
  - Little or no increase in either desire or capacity at any age.
72. What is the effect of masturbation on sex desire or capacity to reach orgasm and on ability to cause pregnancy or to become pregnant later in life?
- Has no physical effect on later desire, capacity, or ability.
  - Has no psychological effect on later desire, capacity or ability.
  - The effect depends on how much the man or woman has masturbated.
  - Reduces later desire, capacity and ability in men.
  - Increases later desire and capacity in women.
73. How does masturbation affect intelligence and emotional control?
- Causes some loss in both.
  - May cause a nervous breakdown.
  - Slows the growth of intelligence.
  - The effect depends on how much one masturbates.
  - Has no effect on either one.
74. What are the effects of masturbation on the human body?
- Less strength.
  - Temporary reduction of sexual tension.
  - Retarded growth.
  - Enlarged sex organs.
  - Reduced resistance to disease.
75. To what extent can men and women with syphilis or gonorrhea have sex relations?
- They want and can have sex relations more often.
  - They want and can have sex relations less often.
  - They want and can have sex relations as usual.
  - They want but can't have sex relations.
  - They neither want nor can have sex relations.
76. What has happened to the man or woman who had a chancre



of syphilis or a discharge from gonorrhea and these disappeared without medical treatment?

- a. The disease is cured; there is no further cause for worry.
- b. The uncured disease can not harm him or her but may harm others.
- c. The uncured disease may later harm him or her but will not others.
- d. The uncured disease is dangerous to the person and to others.
- e. The cured disease means the person is safe from having it again.

77. How curable are syphilis and gonorrhea?

- a. Almost every case of either disease can be cured.
- b. Some cases of both diseases can be cured.
- c. Syphilis can not be cured; Gonorrhea is easily cured.
- d. Gonorrhea can not be cured; syphilis is easily cured.
- e. These diseases can be cured only if treated soon after infection.

78. How do sex relations during or after menopause affect a woman's physical and emotional health?

- a. This causes some physical distress or illness.
- b. This causes a nervous condition.
- c. This causes both physical and emotional illness.
- d. The effect depends on the woman's age when menopause begins.
- e. There is no change from the effect before menopause begins.

79. How soon after the beginning of menopause may a woman safely discontinue the practice of birth control?

- a. As soon as she has missed three menstrual periods.
- b. As soon as she has missed six menstrual periods in a row.
- c. When she has not menstruated for one year.
- d. When she has not menstruated for two years.
- e. When she has not menstruated for four years.

80. What happens to a woman's sex desire and capacity for orgasm during and after menopause?

- a. She has less desire and a lowered capacity for orgasm.
- b. She has a large increase in sex desire and capacity for orgasm.
- c. Her desire and capacity for orgasm remain about the same.
- d. Her desire and capacity are unchanged but sex relations are painful.
- e. There can be no orgasm after menopause.

APPENDIX D

ADVISORY COMMITTEE FOR FORM X OF  
MCHUGH'S SEX KNOWLEDGE INVENTORY

## APPENDIX D

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APPENDIX E  
STATISTICAL FORMULAS USED

## APPENDIX E

## STATISTICAL FORMULAS USED

### Formula for Test of Significance of Differences

$$\text{Critical Ratio} = \frac{\text{Mean of X} - \text{Mean of Y}}{\text{Standard error of Difference}}$$

$$\text{Standard Error of } \bar{X} = \frac{\text{Standard Deviation}}{\text{Number of Scores}}$$

$$\text{Standard Error of Difference} = \text{SEX}^2 + \text{SEY}^2$$

SE = Standard Error

[illegible]